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(71) Applicant: **Vestel Beyaz Eşya Sanayi ve Ticaret
A.Ş.**
45030 Manisa (TR)

(72) Inventors:
• **Erdem, Gökhan**
45030 Manisa (TR)
• **Eryilmaz, Hasan**
35150 Izmir (TR)

(74) Representative: **Cayli, Hülya**
Paragon Consultancy Inc.
Koza Sokak No: 63/2
GOP
06540 Ankara (TR)

(54) **Rack ledge for ovens**

(57) The oven of the invention comprises a rack ledge (1) which is provided on each of the opposing side walls of the oven cavity, which extends from the front end (3) towards the rear end (4), which comprises multiple horizontal wires (5) thereon, which has, between two neighboring horizontal wires (5), a gap (10) into which

the side bar (9) of the oven rack is seated; at least one oven rack (2) which is slidable towards the rear end (4) and back end (3) on said rack ledge (1) and on which the food stuff to be cooked are placed. The oven is also provided with at least one vertical support rod (7) which interconnects at least two horizontal wires (5).

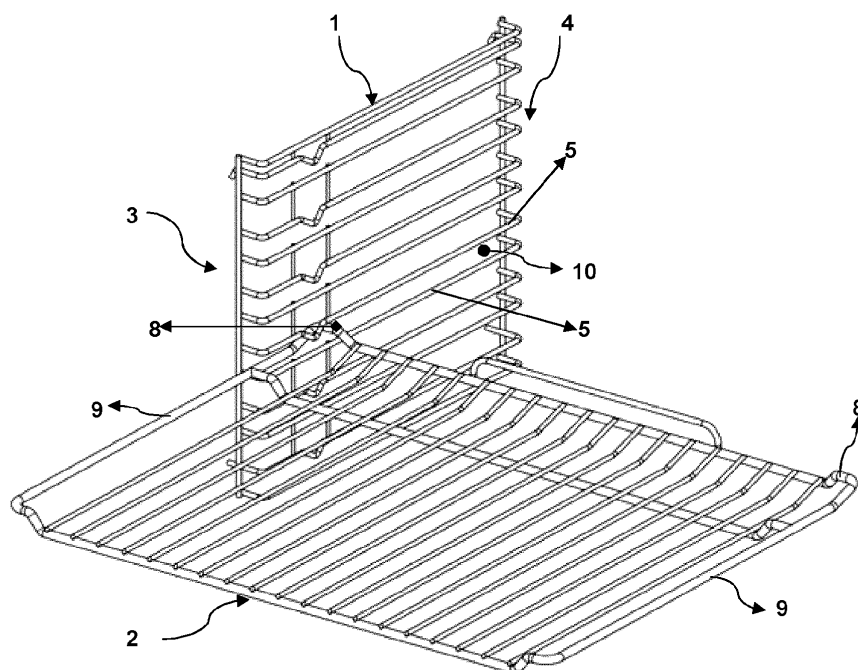


Figure – 1

Description

Technical Field

5 [0001] Present invention relates to rack ledges in the ovens used for cooking food.

Prior Art

10 [0002] As is known, among the cooking devices, ovens are commonly used ones which perform cooking in a closed cavity. Slide racks in the form of wire grid or tray are usually employed for placing the food to be cooked in this cavity. On both of the opposing side walls of the oven cavity are provided ledges between which the side bars of the racks are suitably seated in order to slide the racks forwardly / backwardly within the cavity.

15 [0003] Published patent application No WO2004020908 can set an example for such ledges. This patent application discloses rack ledges which are formed on side walls of the oven and are integral with said wall. This application also presents rack ledges which are designed to be mounted to side walls and are which are composed of horizontal wires, between the gaps of which the racks are seated. However, said horizontal wires advance through the oven cavity without being supported, which result in bending of these horizontal wires due to the loads of the rack. Owing to this bending, there is a risk that the racks (particularly the extended ones) may be angled and the contents of the rack may drop.

20 Brief Description of the Invention

[0004] The oven of the present invention comprises a rack ledge, which is provided on each of the opposing side walls of the oven cavity, extending from the front end towards the rear end, comprising multiple horizontal wires thereon, having, between two neighboring horizontal wires, a gap into which the side bar of the oven rack is seated; at least one

25 oven rack which is slidable back and forth on said rack ledge and on which the food stuff to be cooked are placed. [0005] When the rack is extended, the rack (assuming an angled position) applies pressure on the two above and below horizontal wires due to the weight of the rack and of the load (food to be cooked) on the rack. In this case, at least one vertical rod, which interconnects at least two horizontal wires, is employed, preferably near the front end of the rack ledge, in order to prevent the rack from bending the wires further. Vertical rods support the horizontal wires, preventing

30 Objective of the Invention

35 [0006] The aim of the invention is to provide durable rack ledges for ovens which are used for cooking food stuff.

[0007] Another aim of the invention is to prevent said rack ledges from being further bent due to the loads on the rack.

[0008] Another aim of the invention is to ensure safety of the user by preventing over extension of the rack and inadvertent dislocation thereof when the rack on the ledge is extended.

40 [0009] Another aim of the invention is to provide rack ledges having said properties, which are simple and cheap to manufacture.

Description of the Drawings

45 [0010] An example of the rack ledge of the invention and rack is illustrated in the annexed figures wherein:

Figure 1 is the perspective view of the rack ledge and rack.

Figure 2 is the side view of the rack ledge.

Figure 3 is the side sectional view of the rack ledge and the rack.

50 Figure 4 is the view of the detail "D" in Figure 3.

[0011] The parts in the figures are individually enumerated and corresponding terms of these reference numbers are as follows:

55 Rack ledge (1)

Rack (2)

	Front end	(3)
	Rear end	(4)
5	Horizontal wire	(5)
	Flexion	(6)
	Vertical support rod	(7)
10	Back of the rack	(8)
	Side bars of the rack	(9)
15	Space	(10)

Disclosure of the Invention

20 **[0012]** Figure 1-4 illustrates a rack ledge (1) used in the cavity of the oven (the oven and the cavity are not shown) and the rack (2) which is mounted to this ledge (1). The rack ledge (1) is a component which is provided on each of the opposing side walls of the oven cavity.

[0013] Multiple horizontal wires (5) are located on the rack ledge (1); these wires (5) are positioned such that they extend from the front end (3) towards the rear end (4). The gap (10) between the two neighboring wires (5) receives the side bar (9) of the rack (2).

25 **[0014]** The figures show the rack (2), by way of example, as a wire grid; however racks in the form of tray are also used. The rack is slidable back and forth (between the front and rear ends (3, 4)) within the gap (10) between the two horizontal wires (5). As the rack (2) is extended towards the front end (3), the back of the rack (8) leans onto the above horizontal wire (5) and becomes angled to some extent.

30 **[0015]** The manufacturers tolerate this angled position by to a certain degree. At this position, the rack (2) applies pressure on the two above and below horizontal wires (5) due to the weight of the rack (2) and of the load (food to be cooked) thereon. In this case, at least one vertical rod (7), which interconnects at least two horizontal wires (5), is employed, preferably near the front end (3) of the rack ledge (2), in order to prevent the rack (2) from bending the wires (5) further and to prevent the rack (2) from becoming angled more. Vertical rods (7) support the horizontal wires (5), preventing bending of the wires (5).

35 **[0016]** In addition, at least one horizontal wire (5) has a downward flexion (6) near the front end (3) of the rack ledge (1). When the rack (2) is extended towards the front end (3), the back of the rack (8) leans onto this flexion (6) at this extended position. (Front end of the rack (2) is lifted up for removing the rack (2) from the ledge (1)). When the rack (2) is at this position, sliding of the rack (2) towards the front is prevented since the front end of the rack (2) is angled downwards at a certain degree. Furthermore, the vertical support rods (7) are preferably located near the flexion (6) at this position of the rack (2), wherein the rack (2) applies the most pressure on the two horizontal wires (5). The figures, for instance, show the support rods (7) along the both sides of the flexions (6). Easy reproducibility of the rack ledge (2) structure formed by the present invention is another advantage offered by the embodiment of the invention.

Claims

1. An oven comprising a rack ledge (1) which is provided on each of the opposing side walls of the oven cavity, which extends from the front end (3) towards the rear end (4), which comprises multiple horizontal wires (5) thereon, which has, between two neighboring horizontal wires (5), a gap (10) into which the side bar (9) of the oven rack is seated; at least one oven rack (2) which is slidable towards the rear end (4) and back end (3) on said rack ledge (1) and on which the food stuff to be cooked are placed **characterized in that** the oven further comprises at least one vertical support rod (7) which interconnects at least two horizontal wires (5).
2. An oven according to Claim 1 **characterized in that** the vertical support rod (7) is located near the front end (3).
3. An oven according to Claim 1 **characterized by** comprising a downward flexion (6) of at least one horizontal wire (5), which is near the front end (3) of the rack ledge (1), and onto which the back of the rack (8) will lean when the rack (2) is extended towards the front end (3).

4. An oven according to Claim 3 **characterized in that** the vertical support rod (7) is located near the flexion (6).

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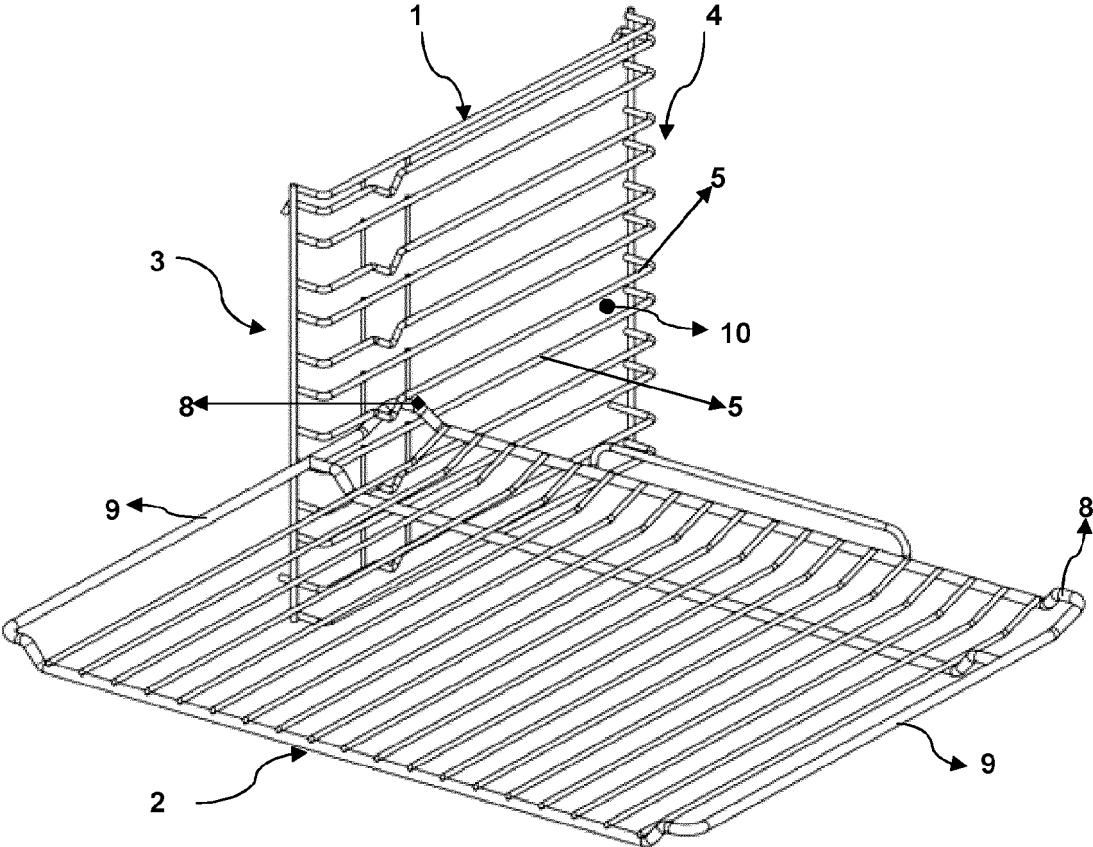


Figure – 1

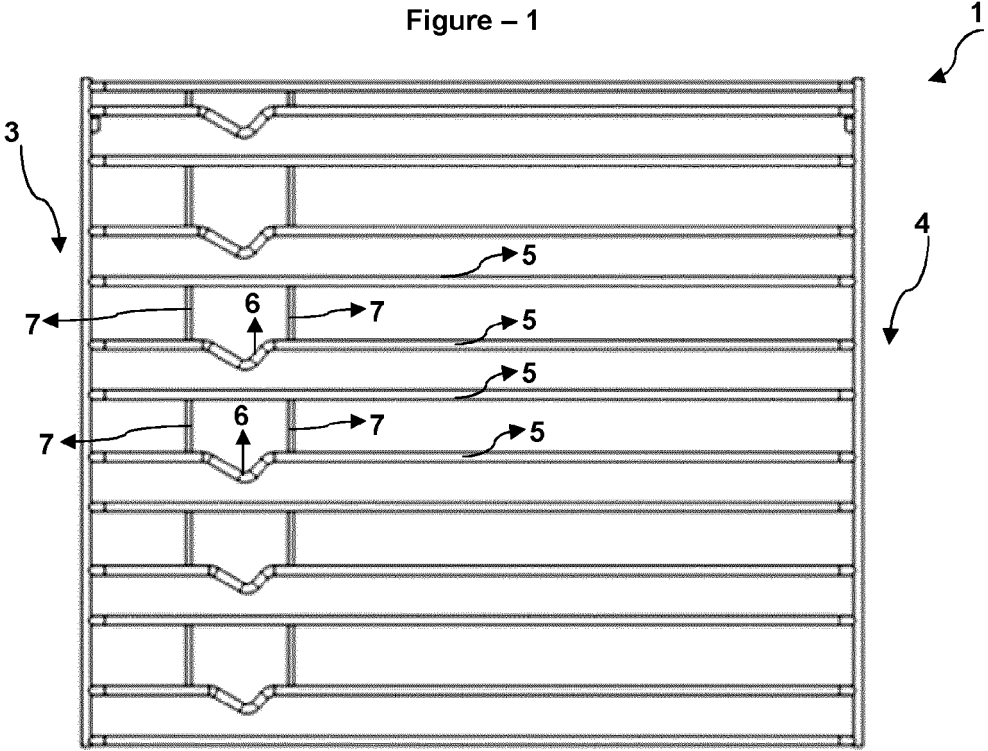


Figure – 2

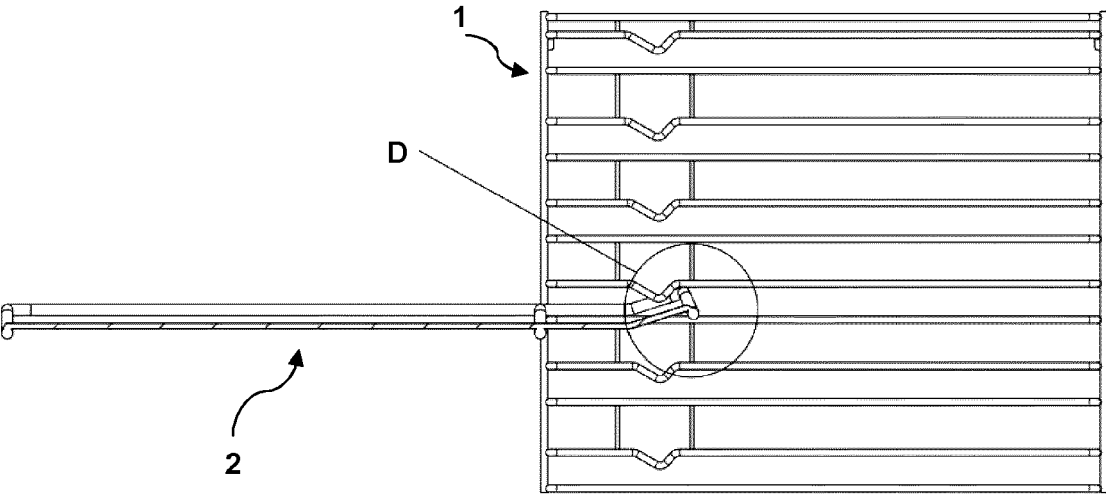


Figure – 3

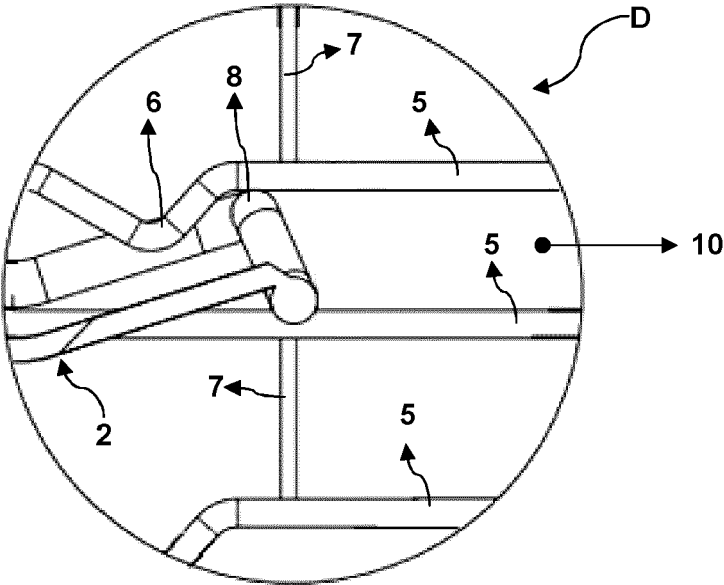


Figure – 4



EUROPEAN SEARCH REPORT

Application Number
EP 11 19 0798

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 1 013 313 A (RICHARDSON ERNEST [US]) 2 January 1912 (1912-01-02)	1,2	INV. F24C15/16
Y	* figures 1,2 *	3,4	
X	DE 42 43 364 A1 (BOSCH SIEMENS HAUSGERAETE [DE] BSH BOSCH SIEMENS HAUSGERAETE [DE]) 23 June 1994 (1994-06-23) * figures 5a-5c *	1,2	
Y	US 2 466 360 A (BITNEY DEWEY H) 5 April 1949 (1949-04-05) * figure 1 *	3,4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			F24C
Place of search		Date of completion of the search	Examiner
The Hague		24 April 2012	Verdoodt, Luk
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 19 0798

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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24-04-2012

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 1013313	A	02-01-1912	NONE	
DE 4243364	A1	23-06-1994	NONE	
US 2466360	A	05-04-1949	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2004020908 A [0003]